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ABSTRACT

This paper presents a perspective from Singapore on the secondary school curriculum and adolescent development. Topics discussed include (1) curricular considerations related to socioeconomic factors in Singapore society, such as rapid industrialization, problematic procreation and marriage trends, latchkey children, and youth gangs; (2) curriculum and the socio-emotional development of the adolescent, focusing on family life education, programs for moral education, and religious studies; (3) curriculum and the intellectual development of the adolescent, including material on the intellectual development of adolescents, Singapore's new education system for secondary schools which was introduced in 1982 with the primary aim of reducing attrition rates in the school system, as well as the program for vocational education; and (4) curriculum and the physical development of the adolescent, focusing on the need to counter the debilitating influences of an affluent lifestyle and a new physical education program incorporated into the overall curriculum. (RH)

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Curriculum and Adolescent Development: A Singapore Perspective*



Amy Fam and Tay-Koay Siew Luan

INTRODUCTION

A cynic once noted that 'adolescence is a time when one wants what one isn't sure what one wants'. Whether this is an apt or fair description of adolescence, those of us who are involved, directly or indirectly, with designing curricula for adolescents are doubtlessly aware of the problems of making the school curricula more attractive without being too paternalistic.

While the Latin derivative '*adolescere*' merely means 'growing up', it makes no reference to the most tumultuous period of one's life span, as experienced by many people, especially in complex and affluent societies. Singapore is probably no exception for the adolescent has first to come to terms with not only a series of rapid changes taking place in his body but also increased expectations and demands from his environment. We do realise that the work of anthropologists such as Ruth Benedict and Margaret Mead suggests that where society is simple and traditional, there is little, if any, storm and stress during this transition to adulthood. The definition of the adolescent period also varies from society to society and from culture to culture. For the purpose of this paper, we would like to confine our discussion on adolescence to the age range corresponding to entry into secondary school until the completion of pre-university education i.e. between the ages of 12 and 18.

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CURRICULAR CONSIDERATIONS: SOCIO-ECONOMIC FACTORS IN THE SINGAPORE SOCIETY

Adolescence is therefore a psycho-social phenomenon. It is largely affected by social pressures, educational activities and individual experiences. There are features of our society which ought to be briefly mentioned here because of their influence, directly or indirectly, on adolescent development.

When Singapore first gained its independence, the Education Report 1959 put forth an education policy which rests on the following four principles:¹

- (1) provision of equal educational opportunity for all;
- (2) attainment of unity in a diversity of ethnicity and mother tongues;
- (3) building of loyalty to the nation; and
- (4) the preparation of youths for their vocation in a progressively technological society.

Singapore is not endowed with natural resources and hence depends solely on its human resources for its development. We are a nation with about 35.5% (1983) of our population below 20 years of age.² Our best investment for the development of our country therefore lies chiefly in developing our youths into a rugged and productive society. In his speech at the National Day Rally last year,³ the Prime Minister, Mr Lee Kuan Yew, first expressed his grave concern for the lopsided pattern of procreation as well as the current marriage trend in Singapore. He observed that the 1980 Census showed that the better educated the people, the fewer children they have. Yet another more disturbing observation is that more and more of our graduate women tend to remain unmarried while the graduate men seem to prefer wives with lower educational levels. If the trends from these two observations persist and remain unrectified, it will lead to a gradual depletion of the pool of talents in the country over the next few decades. This will result in a decline in the competencies of our human resources and hence our economy and society may be adversely affected.

Figures released from the Prime Minister's office⁴ indicate that at the moment, as we go up the age ladder, more female than male graduates remain single despite a higher ratio of male to female graduates. There are now few male graduates to every female graduate in the younger age group of 25-29.⁵ A projection from census returns⁶ and demographic trends shows that by 1990, there will be two-and-a-half times more unmarried woman graduates than at present if we allow the current marriage trend to continue. This will approximate to an astronomical figure of 14,100 unmarried woman graduates. It is indeed a matter of grave concern for our nation and ideas and strategies are being explored that may lead to 'they got married and lived happily ever after'.

Coming back to the issue on procreation, let us now examine the consequence of the two-child family policy implemented in the early 1970s. It has been a very successful campaign and the census reports a decline in the birth rate over the last decade. In a rapidly industrialising and modernising society like Singapore, the pattern of life in the family has changed drastically as a result of the shrinkage in family size. It is now usual for both parents to go to work. Working parents leave their children unsupervised for hours each workday. Children often become latchkey children and form the new 'orphans' of our society. They eat out at hawker centres and go out to play the whole day without adequate parental control. Adolescents turn to one another for companionship. They gather in groups outside shopping centres, hawker centres, and fast food chains along Orchard Road, the focus of our shopping attraction. They form cliques like the 'Far East Kids' and the 'Kwa Chee Gang' to spend their leisure hours together. These adolescents are thereby confronted with a wide spectrum of values and behaviours for which they are unable to select because they are not equipped with proper propensities for values clarification.

Such changes in the social infrastructure of any society inevitably produce a ripple effect in the education system. The education system has always been a subsystem of the social system since the objectives of education are designed to remain relevant to society's needs and national policies. A major area of concern in the educational system is the curriculum. Curriculum refers to the sum total of ALL the influences INTENDED to bring about *desirable* changes in an individual's behaviour. There is an overriding element of intentionality based upon choices of an ethical or pragmatic kind between different possible corpuses of knowledge and end results or aims. In Singapore, the Curriculum Development Institute of Singapore (CDIS) was established in 1980 to be primarily responsible for the development of school curricula to meet the objectives of the nation as well as societal demands and the individual needs of our young. It is co-located in the same campus as the Institute of Education (IE) because it is considered crucial that curriculum development and teacher education should work in tandem with one another. Besides serving as informal advisors to many CDIS projects – at present as many as eight IE lecturers are in fact seconded to work in three projects on a full-time basis – various teams of IE lecturers have been responsible for the summative evaluation of a variety of CDIS projects.

CURRICULUM AND THE SOCIAL EMOTIONAL DEVELOPMENT OF THE ADOLESCENT

Today's adolescents, whether they like it or not, are tomorrow's adults. It is therefore imperative for the school to help socialise the adolescents into their adult roles in society. The curriculum should, as far as possible, accommodate the needs generated by sociological changes.

The so-called Great Marriage Debate has successfully sparked off tremendous interest on issues pertaining to marriage and motherhood. Schools are encouraged to conduct seminars, debates and discussions on family life education so that adolescents can come together and share their views on the facts of life and love, dating and responsible boy-girl relationships. On a more formal level, a curriculum project on marriage is now being developed by the CDIS to help inform our young on issues concerning marriage and procreation and their responsibility towards the nation in this respect. This curriculum package will be implemented at the upper secondary level in the near future. Meanwhile, girls' schools are encouraged to cater for more feminine activities such as music, art, ballet and, most important of all, home economics. This will help our adolescents, in particular, the girls, to develop into 'more balanced and fully realized human beings'.⁷

In the Human and Social Biology syllabus which is offered at the General Certificate of Education (GCE) 'O' level, students learn about environmental pollution, personal health including common diseases and immunisations as well as sexual reproduction genetics and family planning. It is very informative and serves to prepare the young adolescent for his adult role.

The curriculum should not be concerned with only the social development of the individual. What it provides in terms of values is particularly important. The lack of proper parental guidance and rapid development in Singapore over the last two decades lead to the facile adoption of the more decadent of Western values and excessive individualism and materialism. So in 1978, a high-level committee was commissioned to look into the moral aspects of education in Singapore. In the past, Civics was taught once a week on a rather informal basis. Teachers were not formally trained to teach the subject and they had no specific textbooks for the lessons.

In his comments on the Report of the Education Study team, the Prime Minister aptly spells out the test of a good education as follows:

The litmus test of a good education is whether it nurtures citizens who can live, work, contend and co-operate in a civilized way. Is he loyal and patriotic? Is he, when the need arises, a good soldier, ready to defend his country, and so protect his wife and children, and his fellow citizens? Is he filial, respectful to his elders, law-abiding, humane and responsible? Does he take care of his wife and children, and his parents? Is he a good neighbour and a trustworthy friend? Is he tolerant of Singaporeans of different races and religions? Is he clean, neat, punctual and well-mannered?⁸

This provides the basis for the committee to recommend that the Civics programme be replaced by the Moral Education programme. The principal objective is to develop desirable moral values and social attitudes

in the young. Subsequently, programmes like 'Being and Becoming' were introduced to the primary and later on, the secondary schools. The method of teaching the desired moral values and social attitudes departs largely from the traditional method of inculcation. The young adolescent no longer needs to sit quietly and listen to the 'rights' and 'wrongs' of behaviours. Instead, he is encouraged to question and discuss morals and clarify values for himself.

The Committee also recommended that religious studies be introduced to reinforce the teaching of moral values. Religious Knowledge is introduced as a subject in the school curriculum at the third and fourth years of secondary school. Religious Knowledge offers a variety of options ranging from Confucian Ethics and a course called World Religions to the teaching of Islam, Hinduism, Christianity, Buddhism and Sikhism. The main emphasis underlying all these options is on the development of loyalty and social responsibility to the family, school and nation.

However, from the viewpoint of one who is interested in helping the adolescent attain the full development of his potential, it is also necessary to look into other aspects of his development.

CURRICULUM AND THE INTELLECTUAL DEVELOPMENT OF THE ADOLESCENT

Intellectual Development of Adolescents

Adolescence is also a time of intellectual expansion, both quantitative and qualitative. It is during this period that many kinds of mental ability, especially those least dependent on experience, reach their peak. The adolescent is able to master not only cognitive tasks which he has performed with great difficulty in middle childhood but also think through problems in entirely new ways.

In particular, an adolescent is capable of varying degrees of what Jean Piaget calls 'formal operational thought' — the ability to think abstractly and formulate hypotheses or theoretical propositions that depart from immediately observable events. As compared to the child who is mostly preoccupied with concrete and here-and-now problems, the adolescent is able 'not only to grasp the immediate state of things but also the possible state he/she might or could assume'.⁹ Furthermore, he is able to conceptualise his own thoughts and 'to take his mental constructions as objects and reason about them'.¹⁰ It is clear that with this capability to engage in formal operations, the adolescent is able to deal with many complex, educational and vocational demands. The individual finds that he has to adjust to increasing academic and intellectual requirements. He is expected to acquire many skills and concepts useful at some future time but often lacks immediate motivation.

So much has been said about the intellectual development of the adolescent according to the Piagetian model. However, in the context of Singapore, research on this developmental aspect of formal operational thinking of secondary school students has yet to be conducted systematically and on a wider sample. Exploratory studies have already been carried out by the IE on the cognitive development of secondary school students in Singapore.¹¹ Such studies include adolescents' performance on formal operational tasks such as reasoning and judgemental tasks through the use of English Comprehension passages. Assessment of explanation and investigation of cognitive styles of pre-university students have also been the subject of study.¹²

In order to cater to the intellectual needs of the young adolescents, the curriculum in Singapore is currently undergoing many changes. One example is the change in the Secondary One syllabus in Geography.¹³ Instead of merely acquiring facts, the emphasis now is on learning to think and to probe concepts of geography that will help them to relate to the rest of the world and to everyday life. Rather than being tested on what they know, they will be assessed on how to reason out their answers. They will be encouraged to 'make socially responsible decisions' and help to understand the planning and policy decision-making process. Active approaches like games and field trips that involve the students in the learning process are some of the teaching strategies in the new syllabus. For a lesson in settlement, students will be organised into groups and told to decide where a settlement should be located and why. It is indeed a stimulating way of developing students' critical ability.

Another example is in the Science syllabus where the emphasis is on activity-oriented approach. Science teachers are also increasingly using field trips in the teaching-learning process. The new approach is to develop the exploratory instincts and encourage students to speak up rather than listen passively. Schools have developed facilities to make the 'touch-and-see' and exploratory method interesting and meaningful. Some schools have developed a vegetable plot and an ecology pond, a science garden, a display case and a large science room.

The Singapore curriculum provides adolescents the opportunity to develop their talents outside of the classroom and to show their prowess in science, art or music through participation in activities at the Singapore Science Fair and the Singapore Youth Festival. The latter includes a wide range of activities such as art and craft exhibition, a drama festival and outdoor band activities. For the 1980 Singapore Youth Festival, participants were required to research on music and dance forms of the past. The theme was 'Our Cultural Heritage'.¹⁴

To capitalise further on the intellectual expansion and development of the adolescents, the Ministry of Education is encouraging the setting up of computer clubs in schools and increasing student involvement in computer

appreciation courses. They are encouraged to use their talents to develop programmes that can serve as diagnostic and remedial learning packages to help the slow learners. The Ministry is prepared to install three micro computers costing about S\$10,000 each in these schools. The IE is indirectly involved in enhancing the cognitive development of our secondary school students. In collaboration with the Ministry of Education, IE conducts pre-service and in-service courses to familiarise teachers with the new syllabi and modern teaching strategies.

In examining the Singapore curriculum more closely, it cannot be denied that much as the government has the adolescents' individual interests and needs at heart, national interest is more important. It is especially so in Singapore where manpower needs are a major concern. It is all the more crucial as the nation's only resources are its people and Singapore's future depends on how well we develop the potential of our youth today.

New Education Programme

Singapore's new education system¹⁵ for secondary schools was introduced in 1982 with the primary aim of reducing attrition rates in the school system. It takes into account the individual learner and the variance in intellectual ability among adolescents. Thus, the Singapore curriculum caters to the needs of these adolescents by providing them with an educational experience that allows individuals to proceed at their own rates of progress.¹⁶

The Goh Keng Swee Report of 1979¹⁷ recommended that there should be two main streams at the secondary level. The Special/Express stream will be for the abler pupils who required more cognitively demanding schoolwork to progress at a faster pace of learning and sit for the GCE 'O' level examination at the end of four years. Those who do well academically will be provided with pre-university education leading to the GCE 'A' Level examination in junior colleges and pre-university centres. The majority of students will join a 5-year stream called the Normal Stream which caters to those who have a slower rate of learning and are more inclined towards practical-oriented schoolwork. At the end of the fourth year, they sit for the GCE 'N' level examination. The majority will be expected to complete their schooling at GCE 'N' level. A minority will continue into the fifth year and take the 'O' level examination.¹⁸

The curriculum at the 'O' level is very academic and suited only for the top 30-40% of the students. The GCE 'N' curriculum, on the other hand, is designed to suit most of the normal stream students. It is pitched at a more functional and practical level with emphasis on literacy and numeracy. Hence, students who are unable to cope with academic work will be given every chance to obtain a minimum level of education so that they can be useful citizens in their own ways. Singapore's education system is performing its role by helping to motivate these adolescents and

to make up for their prior deficiencies in cognitive development by providing them with educational experiences in which they can acquire appropriate skills and experience success. This is essential in cultivating a sense of self-worth and a stable identity. Truly, these adolescents are scarce resources and their potentials need to be maximised in the interest of the nation. Indeed, the 'greatest safeguard to any democracy is a continuing community of self-respecting young people who understand and accept their relationship to society. The basic unit of such a community is a stable self to respect.'¹⁹

Vocational Training Programme

Towards this end, the Vocational and Industrial Training Board (VITB) in catering to the needs of the less academically inclined has expanded its programme to provide better training opportunities for those pupils who are more inclined towards vocational/technical skills and interests. The Automatic Registration Scheme has been introduced in the schools to facilitate the transfer of these premature school leavers who do not attain the GCE 'N' certificates and those students who leave school with GCE 'N' or 'O' level qualifications into the world of work through VITB whose role is to provide training in basic skills for employment. Further upgrading and advanced training are to be undertaken by the employer or the industry. As the main thrust of vocational training is preparation for work, the curricula are focussed on the acquisition of skills with a mastery of related knowledge and work disciplines that go with the skilled occupation. The practical or workshop component occupies 60.0% of curriculum time while theory and other learning activities take up the remainder 40.0%.²⁰

At the same time, the VITB is also broadening its scope of activities to include courses for retraining workers who want to change their skills to new areas. The introduction of Basic Education for Skills Training (BEST) programme²¹ is a related development. As Singapore's economy is undergoing restructuring towards higher productivity by using capital and technology intensive methods and to enable workers to benefit from these changes, the Singapore government is putting in great efforts to make the BEST programme into a national programme by getting employers to set up BEST classes within company premises. The BEST programme is aimed at those who have not successfully completed primary education by providing them with a minimum level of functional literacy and numeracy. Basic education opens the door to career advancement as those who successfully complete the BEST programme will qualify for VITB skill courses. In this way, a worker can have the opportunity to increase his productivity and share of earning power.

The Gifted Programme

So much has been said about the Singapore government's concern for the manpower needs of the country and for the less academically inclined. However, there is also focus on another group of students in the school population, namely, the exceptionally intelligent students called the 'gifted'. Presumably, they have been neglected for far too long. The normal classroom teaching bores and frustrates many of these intellectually active students. Hence, they may do worse than others and even pose discipline problems. In their effort to conform, they suppress their natural abilities in the process. Research has shown that many of these talented students perform far below their intellectual potential in an attempt to escape peer group pressure.²²

The Singapore government has been studying the experience of other countries with established programmes to see how it can cater to the special needs of these gifted students and to be able to provide them with appropriate facilities that will develop their potential to the fullest. According to Tay Eng Soon, Minister of State (Education), these talented students have great contributions to make to the society and these 'can only be realized if their gift is first, recognised and second, a programme is developed for their needs'.²³

The Gifted Children Pilot Project was launched by the Ministry of Education in January 1984 with 100 Primary Four and 100 Secondary One students. Selection is based on their performance in intelligence tests as well as in school examinations. These gifted students are placed in eight special classes, 25 to a class, in four selected good schools. Specially hand-picked teachers are selected to teach them. Not only will they get more individual attention from the teachers but they will also study in a more liberal and stimulating environment.

Although the curriculum for these gifted students is the same as the existing curriculum, the teaching methods differ. The emphasis will be on thought-provoking teaching methods and activities that will stimulate and stretch their minds. Their curriculum is supplemented with project work to allow stimulation for inquiry and discovery. Some of them can readily cope with Mathematics or Science two or three years ahead at school level. Others have reading and comprehension level that is much more advanced than that of the average Singapore student. Secondary school students who are gifted will do an additional subject in the humanities if they are in the science stream while students in the arts stream will do an extra science subject. There is also a provision for some to study a third language. In order to instil a sense of social responsibility in these gifted students, they will also be involved in tutoring their weaker peers. At this point of time, it is too premature to evaluate the effectiveness of the gifted programme as it is still in its infancy stage.

It therefore appears from the recent curriculum changes that the government is also taking into consideration the development of the individual for the individual's sake and, in the long run, to supply the nation with a bigger pool of both talented and skilled manpower to run the country.

CURRICULUM AND THE PHYSICAL DEVELOPMENT OF THE ADOLESCENT

Compared to the tremendous changes in the curriculum to cater to the intellectual development of the adolescents, there is far too little done to assist their physical development. We know that during the adolescent years, there is also dramatic progress in physical and physiological development. In Singapore, the physical fitness of our adolescents require urgent attention because of the easy lifestyles brought about by affluence. Many are living in high-rise flats and are likely to grow up physically unfit with health problems unless the curriculum caters more to this area of their development.

Tan Eng Liang, Chairman of Singapore Sports Council lamented that 'PE and sports have not enjoyed a parity of treatment as other academic subjects'²⁴ Although physical education and sports have been a part of the curriculum, most schools view these activities as outlets for students to expend their excess energy so that they may concentrate better on academic work. Perhaps, the weakness in the Physical Education (PE) syllabus lies in producing spartans fit for the army rather than encouraging the cultivation of a healthy active life.

Being a meritocratic society, Singapore tends to be academically oriented and concerned with minimising educational wastage. In 1979, the Ministry of Education permitted the principals of nine schools that were reserved for the top 8.0% of primary school leavers to drop all PE lessons so as to allow students more time to concentrate on English and Chinese. To make up for the lack of PE lessons during the week, these schools had daily mass drill exercises and callisthenics after the school flag raising ceremony. Parents then had reason to worry that their children's academic excellence might be developed in direct proportion to physical dissipation. Even now, there is a fear that with the lack of PE lessons during the week, we are likely to end up with 'a nation of bookworms who will not know their heads from their tails from so much burrowing around'.²⁵

However, from a review of the extra-curricular activities (ECA) programme in schools in January 1981, the Ministry of Education discovered that the PE programme had failed to prepare adequately the boys for national service. The physical fitness of students had fallen short of expectation as the Ministry of Defence found that too many of the 18 year-old recruits were 'generally weak'.²⁶ In its recommendations for improving the quality of ECA programme, the team had suggested that

physical fitness be achieved through a good PE programme during school hours rather than through compulsory ECA sports. As a result of this review, a compulsory PE programme of 2 periods a week is now included in the school curriculum.

The national slogan as suggested by Tay Eng Soon, Minister of State (Education) is 'physical fitness for labour and defence'. The current PE programme supplemented by ECA in schools is aimed more at developing a workforce fit and robust for Singapore's industries and national defence rather than at the physical development of the adolescents *per se*. The new PE programme tends to emphasise a military type of land-based techniques such as stamina training, physical fitness in the way of the army, strenuous circuit-training with sit-ups and pull-ups, and track and field events.

Above all these, there is also a tendency to convey the idea that even in the sports field, one has to do well, to excel and thus chalk up enough points to scale the academic ladder. Furthermore, the competitive nature may kill the spirit and sense of enjoyment associated with playing games for the fun of it. A Singapore journalist commented that 'PE has become a training ground for champions — not a place for pupils who derive simple pleasure in kicking a football in the school field'.²⁷ There is indeed a great need to develop in our future citizens a wholesome attitude towards physical fitness through exercise and sports. Unless something is done, PE will continue to rank low in school priority and students will continue to be physically unfit.

CONCLUSION

In closing, it is useful to note that curriculum development in Singapore is slowly deviating from the mere imparting of knowledge and skills and moving towards the preparation of the adolescent for his role in society. The emphasis on environmental education and the close association with reality in educational experiences during this critical period will surely help the adolescent a great deal in adjusting to the real world outside school.

While this paper examines only the role of the curriculum in adolescent development, there is another major area of concern which is outside the scope of this paper. We must not overlook the teacher as the key element to success in curricular implementation. The teacher comes into frequent contact with the adolescent and is fully aware of his needs and capabilities. For example, many a good curriculum has failed in its attempts not because of its rationale or carefully selected activities but rather, the improper dissemination of information to the teacher to enable him/her to implement the curricular materials according to the way that they have been planned.

However, there will be serious limitations if we rely only on education at a formal level to help the adolescent develop. In an increasingly

complex society, the great plasticity of the young adult and his unpredictable nature provide an immense range of possibilities for parents as well as the community to join the school's efforts to promote the welfare of the youth at an informal level so that he is better prepared to cope and confront life's problems with fuller confidence. Admittedly, the orchestration of efforts, both formal and informal, to ensure that the curriculum is relevant to the needs of adolescents vis-a-vis societal needs is probably the weakest feature in Singapore. However, we wonder if this is not also the scenario for most other countries. If not, we certainly look forward to learn how this problem is being resolved by our colleagues in the neighbouring countries.

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